ABSTRACT

A chuck assembly for holding a sample includes a shaft; a generally circular chuck member, the shaft extending from a first surface of the chuck member; and a sample holder associated with a second surface of the chuck member. The second surface is opposite the first surface. sample receiving assembly holds the sample on the sample holder so that the sample remains fixed to the sample holder when the shaft rotates and causes the chuck member and the sample holder to rotate with the shaft. assembly may be used in a reactor assembly including a reactor chamber for receiving the assembly; a spindle assembly for receiving an end of the shaft distal from the chuck member; and a motor rotating the spindle assembly and the shaft so that fluid in the chamber flows generally along the shaft in a first direction and through the openings in the chuck member, around the sample holder, and then along a wall of the chamber in a second direction generally opposite to the first direction.

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